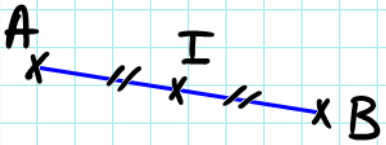
Dans R.O.N $\Rightarrow$ $\vec{u}\begin{pmatrix} x \\ y \\ z \end{pmatrix} . \vec{v}\begin{pmatrix} x' \\ y' \\ z' \end{pmatrix} = xx' + yy' + zz'$

## Milieu

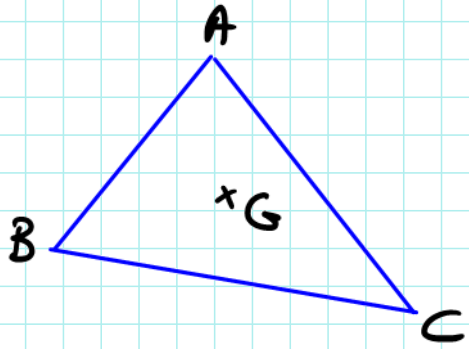



$A(x_A ; y_A ; z_A)$

$B(x_B ; y_B ; z_B)$

$$I = A * B \iff I\left(\frac{x_A + x_B}{2} ; \frac{y_A + y_B}{2} ; \frac{z_A + z_B}{2}\right)$$

## Centre de gravité




G le Centre de gravité du triangle ABC.

$$G\left(\frac{x_A + x_B + x_C}{3} ; \frac{y_A + y_B + y_C}{3} ; \frac{z_A + z_B + z_C}{3}\right)$$

## Distance

$A(x_A ; y_A ; z_A)$

$B(x_B ; y_B ; z_B)$

- $AB = \sqrt{(x_A - x_B)^2 + (y_A - y_B)^2 + (z_A - z_B)^2}$
- $\overrightarrow{AB}\begin{pmatrix} a \\ b \\ c \end{pmatrix} \Rightarrow AB = \sqrt{a^2 + b^2 + c^2}$